

A<sub>1</sub>  
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increasing the conductance out of the process region;  
decreasing the conductance out of the process region;  
introducing at least one ion generating feed gas into the chamber;  
generating a plasma from the ion generating feed gas to form ions;  
exposing the substrate to the ions;  
modulating the ions;  
reacting the monolayer with the ions to deposit the thin film;  
increasing the conductance out of the process region; and  
decreasing the conductance out of the process region.

16. The method of Claim 1 wherein said varying a flux is part of a deposition sequence for depositing a thin film onto the substrate in the process chamber, the deposition sequence comprising:

introducing a first reactant gas into the chamber;  
forming at least one monolayer on the substrate by adsorption of the first reactant gas;  
increasing the conductance out of the process region;  
decreasing the conductance out of the process region;  
introducing at least one reactive atom generating feed gas into the chamber;  
generating a plasma from the reactive atom generating feed gas to form reactive atoms;  
exposing the substrate to the reactive atoms;  
modulating the reactive atoms;

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reacting the monolayer with the reactive atoms to deposit the thin film;

increasing the conductance out of the process region; and

decreasing the conductance out of the process region.

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